

# PATENT ABSTRACTS OF JAPAN

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(71)Applicant : ASAHI CHEM IND CO LTD

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(72)Inventor : NAMIKATA TAKASHI

SASAYAMA MASAAKI

KOGA TAKEHIRO

YAMAZAKI SATORU

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## (54) COMPOSITE STRUCTURE GEL ELECTROLYTE SHEET LAMINATED BODY

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To enhance ion conductivity by laminating a gel electrolyte sheet having two kinds of sea-island structures different in the sea and an island in a freezing state by liquid nitrogen.

**SOLUTION:** In an electrolyte sheet laminated body, a first sea-island structure is a structure that an ion conductive polymer phase is distributed in the sea part and an electrolyte is distributed in the island part. A second sea-island structure is a structure that an ion conductive polymer phase is distributed in the island part and an electrolyte is distributed in the sea part. High mechanical strength and high ion conductivity are attained by forming a complex of an electrolyte sheet having such first/second sea-island structures, when the structures are used for a battery by integrating electrodes and this laminated body, a short circuit between the electrodes can be prevented, and high ion conductivity can be realized. A polyvinylidene fluoride polymer is desirable as a polymer constituting the electrolyte sheet.